

**REMARKS**

Claims 1-69 were previously pending in this application. Claims 2-3, 14, 24, 29, 34, 47, and 68 are cancelled without prejudice or disclaimer. Claims 1, 19, 26, 31, 36, 51, and 66 are currently amended. New claims 70-72 are added. As a result claims 1, 4-13, 15-23, 25-28, 30-33, 35-47, 48-67, and 69-72 are pending for examination with claims 1, 19, 26, 31, 36, and 51 being independent claims. No new matter has been added.

**Claim Objections**

Claims 1-69 were objected to because the phrase “relatively long wavelengths” recited in independent claims 1, 19, 26, 31, 36, and 51 is allegedly indefinite.

Applicants disagree that one of ordinary skill in the art would not be apprised of the scope of the invention. As noted by the Examiner, the specification clarifies the phrase. Indeed, the specification explains that, in some embodiments of the invention, relatively long wavelength scintillation light can be considered afterglow associated with the transition of excited electrons with long decay rates. The term “afterglow” is further explained as scintillation light that negatively affect measurement. (See specification at pages 5 and 6). The specification further explains, with reference to FIG. 9, that light with relatively long wavelengths may be, in some embodiments of the invention, light at wavelengths that are longer than light at maximum intensity and produce less than 10% of the peak intensity. (See specification at page 6).

Thus, an ordinarily skilled artisan would understand the scope of the claims in view of the specification.

Nonetheless, independent claims 1, 19, 26, 31, 36, and 51 have been amended to clarify the phrase. Accordingly, reconsideration and withdrawal of the objection is requested.

**Rejections Under 35 U.S.C. § 102**

Claims 1, 8, 13, 19, 20, and 31 were rejected under 35 U.S.C. § 102(b) as being anticipated by the teaching of Takami et al. in Japanese Patent Application Publication No. 55-065176 A (hereinafter Takami). Claims 26 and 27 were rejected under 35 U.S.C. § 102(b) as being anticipated by the teaching of Lecoq in U.S. Patent Application Publication No. 2002/0195565 A1 (hereinafter Lecoq).

Applicants disagree that the subject matter of each of these claims is anticipated by the teaching of Takami or Lecoq. Independent claims 1, 19, 26, and 31 as well as dependent claims 8, 13, 20, and 27 are allowable for at least the reasons discussed below.

Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 102 is requested.

#### Rejections Under 35 U.S.C. § 103

Claims 2, 5-7, 16, 36, 37, and 40-42 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the teaching of Takami in view of the teaching of Sekela in U.S. Patent No. 6,359,282 B1 (hereinafter Sekela). Claims 9-11 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the teaching of Takami in view of the teaching of Bellian et al. in U.S. Patent No. 5,087,818 A (hereinafter Bellian). Claims 12, 14, and 32 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the teaching of Takami in view of the teaching of Sulzbach et al. in U.S. Patent No. 3,996,461 (hereinafter Sulzbach). Claims 15 and 33 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the teaching of Takami in view of the teaching of Arthur et al. in U.S. Patent No. 3,892,971 (hereinafter Arthur). Claims 21-23 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the teaching of Takami in view of the combined teachings of Sulzbach and Sekela. Claim 28 was rejected under 35 U.S.C. § 103(a) as being unpatentable over the teaching of Lecoq in view of the teaching of Arthur. Claims 43-45 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the teachings of Takami and Sekela, and further in view of the teachings of Bellian. Claims 46 and 47 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the teachings of Takami and Sekela, and further in view of the teaching of Sulzbach. Claim 48 was rejected under 35 U.S.C. § 103(a) as being unpatentable over the teachings of Takami and Sekela, and further in view of the teaching of Arthur. Claims 51, 58, 66, and 67 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the teaching of Lecoq in view of the teaching of Takami. Claims 52 and 55-57 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the teachings of Lecoq and Takami, and further in view of the teaching of Sekela. Claims 59-61 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the teachings of Lecoq and Takami, and further in view of the teaching of Bellian. Claims 62-64 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the teachings of Lecoq and Takami, and further in view of the teaching of

Sulzbach. Claim 65 was rejected under 35 U.S.C. § 103(a) as being unpatentable over the teachings of Lecoq and Takami, and further in view of the teaching of Arthur.

Applicants disagree that the subject matter in any of these claims would have been obvious over the teaching of these references, alone or as in any of the mentioned combination. Nonetheless, for at least the reasons discussed below, these claims are allowable.

Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 103 is requested.

#### Allowable Subject Matter

Claims 3, 4, 17, 18, 24, 25, 29, 30, 34, 35, 38, 39, 49, 50, 53, 54, 68, 69 were objected to as being dependent upon a rejected base claim but would be allowable if rewritten in independent form, including all the limitations of the base claim and any intervening claims.

Independent claim 1 is thus allowable because it includes the limitations recited in dependent claims 2 and 3. Dependent claim 4 is also allowable because it depends from independent claim 1. Dependent claims 5-13 and 15-18 are likewise allowable.

New independent claim 70 is allowable because it recites the limitations presented in independent claim 1 as well as dependent claims 2 and 4.

Independent claim 19 is allowable because it includes the limitations presented in dependent claim 24. Dependent claims 20-23, 25 and 71-72 are also allowable because each depends from independent claim 19.

Independent claim 26 is allowable because it recites the limitation presented in dependent claim 29. Dependent claims 27-28 and 30 are also allowable.

Independent claim 31 is allowable because it includes the limitation recited in dependent claim 34. Dependent claims 32-33 and 35 are also allowable.

Independent claim 36 is allowable because it recites the limitations presented in dependent claims 38 or 39. Dependent claims 37-50 are likewise allowable.

Independent claim 51 is allowable because it recites the limitation presented in dependent claim 68. Dependent claims 52-67 and 69 are likewise allowable.

**CONCLUSION**

In view of the foregoing Amendments and Remarks, this application is in condition for allowance; a notice to this effect is respectfully requested. If the Examiner believes that the application is not in condition for allowance, the Examiner is requested to call Applicants' attorney at the telephone number listed below.

Applicants hereby request any necessary extension of time. If there is a fee occasioned by this Response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 50/2762.

Respectfully submitted,  
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Saint-Gobain Corp. Ref. No.: BI-4041  
Docket No.: S1432-700519  
Date: August 11, 2006